

Original article:

Study of clinical features associated with the abnormal haematological profile.

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Abstract:

Introduction: Clinically significant hematologic abnormalities are common. Impaired haematopoiesis, immun-mediated cytopenias, and altered coagulation mechanisms have all been described in HIV-infected individuals.

Materials and methods: A prospective observational study of the haematological profile with clinical correlation was carried out in a large teaching hospital. 60 Patients admitted in the ward or attending the OPD were studied, after obtaining a written informed consent. All patients had confirmed HIV infection – ELISA reactive by two different methods. Pre and post test counseling was done for all patients.

Results: Tuberculosis was by far the commonest disorder detected in the study population.

Conclusions Tuberculosis is by far the commonest opportunistic infection as per this study. Bone marrow involvement by the Mycobacterium was also demonstrated by using Ziehl Nielson staining techniques.

Keywords: Tuberculosis, HIV infection

Introduction

Clinically significant hematologic abnormalities are common. Impaired haematopoiesis, immun-mediated cytopenias, and altered coagulation mechanisms have all been described in HIV-infected individuals. ¹These abnormalities may occur as a result of HIV infection itself, as sequelae of HIV-related opportunistic infections or malignancies, or as a consequence of therapies used for HIV infection and associated conditions. The specific evaluation of patients affected by various cytopenias will depend on the type of blood cell(s) primarily affected, while specific treatment will depend on the specific cause of the disorder. The present study has been undertaken to know the prevalence of various

hematological disorders in patients infected with HIV in our setup and association with clinical disorders.^{2,3}

Materials and methods:

A prospective observational study of the haematological profile with clinical correlation was carried out in a large teaching hospital.

60 Patients admitted in the ward or attending the OPD were studied, after obtaining a written informed consent.

All patients had confirmed HIV infection – ELISA reactive by two different methods.

Pre and post test counseling was done for all patients.

Using a standardized data extraction proforma, detailed history and epidemiological data was noted.

A thorough clinical examination was done and the

findings noted. All laboratory parameters which were diagnosis were recorded.
pertinent and relevant to the case in the aiding the

Results and observation

TABLE 1 : Showing the distribution of the presenting symptoms in the study population.

Presenting symptom	No. of cases	Percentage
Fever	23	38.33
Cough / Expectoration	19	31.66
Breathlessness	16	26.6
Altered sensorium / convulsion	11	18.3
Diarrhoea	6	10
Glandular swelling	4	6.66
Bleeding tendency	3	5
Pedal edema	3	5

Fever, cough and dyspnoea were seen quite frequently in the study population. Lymphadenopathy and tendency was the presenting symptom in a few patients.

TABLE 2 : Incidence of the non-haematological disorders detected in the study population

Disorder	No. of cases	Percentage
Tuberculosis	28	46.66
Cryptococcosis	3	5
Cryptosporidiosis	2	3.33
Toxoplasmosis	1	1.66
Pneumocystis carinii	1	1.66
Pneumococcal infection	2	3.33
Herpes genitalis	1	1.66
LRTI / Empyema	2	3.33
Chronic Renal Failure	1	1.66
Liver cirrhosis	3	5
Neoplasm (Palatal NHL)	1	1.66
Pyelonephritis	1	1.66

Tuberculosis was by far the commonest disorder detected in the study population.

Table 3 : Showing the incidence of certain typical general examination findings in the study population

General examination finding	No. of cases	Percentage
Oral candida	45	75
Pallor	35	58.33
Platynychia	10	16.66
Knuckle hyperpigmentation	7	11.66
Herpes zoster active / scar	6	10
Lymphadenopathy	5	8.33
Oedema	4	6.66
Petechiae, purpura	2	3.33

Oral candida was seen in 75% of the study population, being the commonest general examination finding. Pallor was also common, seen in nearly 60% of patients.

TABLE 4 : Showing the incidence of tuberculosis in the study population and various sites involved.

Site of tuberculosis	No. of cases	Percentage of total TB cases
Lungs	10	35.71
Disseminated	7	25
CNS	5	17.85
GIT / GUT	3	10.71
TB Pericardial effusion	1	3.57
Lymph nodes	1	3.57
Bone / Joints	1	3.57
Total	28	

Tuberculosis was seen in 28 of the 60 patients, i.e. in 46% of the study population .

Pulmonary tuberculosis was seen in 35% of patients afflicted with tuberculosis with disseminated tuberculosis contributing another major share of 25%

Discussion

This study has been conducted in a large teaching general hospital catering predominantly to a lower socio-economic class of patients. Sixty patients have been studied with respect to clinical, biochemical and haematological parameters. ⁴This study has been

unique for the reason that the haematological profile has been studied in HIV positive individuals all of whom had never been on any anti-retroviral therapy and most of whom had not been on any chronic therapy for an opportunistic infection. Thus the confounding factor of the influence of various anti-

retroviral drugs and other antibiotics on haematopoeisis was naturally eliminated. The patients were examined and investigated only once ours not being a prospective follow up study. The commonest cause of fever was opportunistic infection including tuberculosis and cryptococcal meningitis. Among other causes fever was due to pyelonephritis in one case, pneumococcal pneumonia in another, empyema in a third case and focal cerebritis in another.^{5,6,7}

Apart from one case of *Pneumocystis carinii* pneumonia and one of non tubercular LRTI ; pulmonary tuberculosis was the cause of cough in all other cases. Apart from tubercular and non tubercular chest infections, dyspnoea was caused by anemia, chronic renal failure and massive ascites in the respective patients. Abnormal mentation was the result of neurotuberculosis in five cases, cryptococcal

meningitis in three cases, toxoplasmosis in one case, focal cerebritis in one case and pneumococcal meningitis in one. Diarrhoea was diagnosed to be cryptosporidial in two cases. Significant lymphadenopathy was seen in four cases, 3 due to tuberculosis and another due to reactive lymphadenitis. Bleeding manifestations were seen in 3 cases all due to thrombocytopenia with the platelet count between 20,000 to 40,000. Gross pedal edema was seen in 4 cases, one due to anemia - CCF, another two cirrhosis with hypoproteinemia and the fourth due to malabsorption - anemia - hypoproteinemia.⁸

Conclusions

Tuberculosis is by far the commonest opportunistic infection as per this study. Bone marrow involvement by the *Mycobacterium* was also demonstrated by using Ziehl Nielson staining techniques.

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